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This monthly newsletter is intended to keep IUGG Members and individual scientists informed about the activities of the Union, its Associations and interdisciplinary bodies, and the actions of the IUGG Secretariat, Bureau, and Executive Committee. Past issues are posted <u>here</u>. E-Journals may be forwarded to those who will benefit from the information. Your comments are welcome.

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1. IUGG – The People at the Forefront (XXXV): Jan Krynski, Chair of the Finance Committee 2023-2027



Jan Krynski tied to the home office during COVID-19

My involvement in Earth sciences began at an early age with my keen interest in maps as a source of various information on the Earth, and the world and its history, that can be gained from them, which resulted in my early fascination with geography and then in map-making. It led me to undertake the study of surveying and mapping at the Faculty of Geodesy and Cartography of the Warsaw University of Technology, from which I graduated in 1967 with a degree of engineer and MSc in geodesy. As the university student I became interested in physical geodesy, geodetic astronomy as well as in the use of artificial satellites in geodesy, which was at that time a very new and promising tool for precise global positioning and for determination of the Earth's figure. It was reflected in my MSc thesis, which I completed during a student research internship at the Technical University in Braunschweig, West Germany, and it further influenced my decision to choose a scientific career, which I started in 1968 at what was then the Department of Geodesy and Geodetic

Astronomy (later Department of Planetary Geodesy) of the Institute of Geophysics, Polish Academy of Sciences. Simultaneously, I studied mathematics from 1968 to 1971 at the Faculty of Mathematics and Mechanics of the University of Warsaw, which I found fundamental in my future research in the field of geodesy.

My research interest then focused on celestial mechanics, in particular on the precise determination of orbits of artificial satellites, which was a real challenge not only in theory but also in computations, taking into account the capabilities and performance of computers existing at that time. During research internships at the Division of Astronomy of the Soviet Academy of Sciences in Moscow and the Institute of Theoretical Astronomy in Leningrad in 1972 as well as in the Finnish Institute of Geodesy in Helsinki in 1974, I expanded my knowledge of celestial mechanics and satellite tracking techniques, and continued developing extensive computer programs for calculating satellite orbits. In 1976 I completed my PhD thesis on 'Analysis of selected theories of motion of



Jan Krynski exploring the Earth

artificial Earth satellites in the aspect of geodetic applications' and received the PhD degree in physical sciences from the Institute of Geophysics of the Polish Academy of Sciences.

After spending one and a half years as a post-doctoral fellow at the Institute of Physical Geodesy of the Technical University in Graz, Austria (1976-1978), where I was conducting pioneering research on the use of satellite gradiometry and satellite-to-satellite tracking for geoid modelling (both techniques still far away from being applicable due to existing technical limitations) I earned in 1979 my DSc in technical sciences at the Faculty of Geodesy and Cartography of the Warsaw University of Technology, presenting my thesis on 'Possibilities of low-low satellite tracking for local geoid improvement'. In that time the whole Department in which I was employed in Warsaw got moved from the Institute of Geophysics to the newly established Space Research Centre of the Polish Academy of Sciences.

Over the next decade I was a visiting scientist at a number of outstanding research centres, such as Smithsonian Astrophysical Observatory, Cambridge, USA; Department of Surveying Engineering, University of Calgary, Canada; Finnish Institute of Geodesy in Helsinki; and many other, where I continued research on the use of space geodesy techniques to determine the geoid as well as on the new global satellite positioning technology GPS, which soon became not only the basic tool for geodetic positioning and monitoring geodynamic phenomena, but also precise positioning for a wide range of users, equipped e.g., in mobile phones.

Besides doing research I also lectured as a staff member at numerous universities: University of Washington, Seattle, USA (1987-1988); University of Calgary, Canada (1988-1991); University of Natal, Durban, South Africa (1991-1997); University of Warmia and Mazury, Olsztyn, Poland (1998-2007); Agriculture Academy, Wroclaw, Poland (2004-2005); Higher School of National Economy, Kutno, Poland (2007-2009).

In 1998 I joined the research team of the Institute of Geodesy and Cartography (IGiK) as a head of the Department of Geodetic Astronomy (later the Centre of Geodesy and Geodynamics). My research interests covered a wide spectrum of problems related to geodesy, gravimetry, geodynamics,

reference systems, geodetic surveying, celestial mechanics, numerical methods, and computing techniques. In particular, in last decades it was related to gravity field modelling, geoid determination, geodetic data processing including time series of gravity data and GNSS solutions and their interpretation. My most recent research focuses on temporal variation of the gravity field, new definitions of height systems and gravimetric metrology. In 2004 I was granted the title of Professor in technical sciences by the President of the Republic of Poland. I retired from IGiK in October 2023.

Since early 1970 I was involved in activities of major national and international scientific organisations. In 1973 I was nominated a scientific secretary of the Committee on Space Research of the Polish Academy of Sciences (PAS) which besides coordinating space research in Poland represented Poland in eastern bloc countries space research cooperation Intercosmos, which with short breaks I held for the next 10 years. In 1977 I was invited as a member of two special study groups of the International Association of Geodesy (IAG) on mathematical structure of the gravity field, and on differential geometry of the gravity field. This was my first involvement with IUGG which has been going on for almost half a century. I actively participated in all IUGG General Assemblies starting from the one in Hamburg in 1983, and most of IAG Scientific Assemblies starting from the first one in Tokyo in 1982. I was later a member of numerous working groups and study groups of IAG. I was nominated a Polish delegate to the IAG Council from 2003 to 2018, and to the IUGG Council from 2003 to 2006 and from 2009 to present. The most important functions in the IUGG structure that I was entrusted with by election included assistant secretary of IAG (1982-1991) and member of the IUGG Finance Committee for the years 2007-2019, 2023-2027 (chairman of the Finance Committee 2017-2019 and 2023-present). In the scientific bodies at the national level I was elected a president of the Polish National Committee for IUGG (2009-present), president of the Committee on Geodesy of the Polish Academy of Sciences (2015-2024), chairman of the research council of the Institute of Geodesy and Cartography, vice chairman of the research council of the Institute of Geophysics PAS. Active participation in numerous international scientific symposia and summer schools as an early-career scientist and then chairing sessions on such symposia inspired effectively my research and was an important factor developing my expertise and building up my scientific career. My involvement in editorial activity, such as Chief-editor of the Geodesy and Cartography journal of the Committee on Geodesy PAS, Chief-editor of the Geoinformation Issues journal, Editor of the Polish Astronomical Almanach, not only encouraged me to more intensive review of most recent articles but also helped me to improve writing my own papers in a more transparent and reader friendly way.

I was very fortunate to meet many excellent and some brilliant scientists, especially early in my career, from whom I have learned lots and who strongly affected my future research. At the top of the list are Prof. Helmut Moritz – director of the Institute of Physical Geodesy of the Technical University in Graz, Austria, the IAG President (1979-1983) and the IUGG President (1991-1995); and Prof. Klaus-Peter Schwarz – chairman of the Department of Surveying Engineering of the University of Calgary, Canada, and the IAG President (1995-1999). My own research, undertaken over a period of more than 50 years in the large scale in partnership with talented graduate students, researchers and collaborators, has focused on improving the techniques and algorithms for determining geoid and monitoring its dynamics as well as implementation of new definitions of reference systems for determination of Earth rotation parameters and global geodetic coordinates. I have been honored by a number of awards for my achievements in research, scientific cooperation and teaching. I am proud to say that I am a Fellow of the IAG, but also a Fellow of IUGG. I am happy to continue my service to IUGG as Chair of the Finance Committee. I hope my experience and involvement in international cooperation will bring benefits for the Union.

2. Ocean Decade Conference in Barcelona, 10-12 April 2024

In April 2024, three years after the start of the UN Decade of Ocean Science for Sustainable Development (2021-2030), the Ocean Decade community and its partners were called to celebrate achievements and set joint priorities for the future of the Decade. Hosted by Spain, and co-organised with UNESCO's Intergovernmental Oceanographic Commission (IOC/UNESCO) in close collaboration with the Region of Catalonia and the Barcelona City Council, the 2024 Ocean Decade Conference took place from 10 to 12 April 2024 in the city of Barcelona, Spain. The event was attended by around 1,500 participants from 124 countries.



Alexander Rudloff, IUGG Secretary General, attending the 2024 Ocean Decade Conference. Photo credits: A. Rudloff, left; UNESCO, right

As a result draft white papers were presented, prepared by ten Working Groups, corresponding with the ten Challenges of the Ocean Decade. These white papers prioritise generating knowledge for science-based solutions to e.g., biodiversity conservation, climate change, food security, a sustainable ocean economy, pollution, and natural hazards. The major outcome of the meeting is reflected in the Barcelona Stament. For further information please refer to the Ocean Decade <u>website</u>.

The third UN Ocean Conference, will be held in Nice, France, in June 2025.

The IUGG was represented by its Secretary General.

3. IUGG – National Committee Reports

IUGG AUSTRIA – Quadrennial Report 2019-2023 of the National Committee



The Austrian National Committee of IUGG (<u>ÖNK</u>) is pleased to present its quadrennial report 2019-2023, which can be downloaded <u>here</u>.

The ÖNK meets every year, usually for two days. This involves an exchange of information between the eight associations. In addition, a special topic is set at every meeting, which is discussed in a lecture

or as part of an excursion, such as:

2019: Principles and current developments in metrology

2020: The effect of Corona-Lockdowns on seismic noise

2021: Sentinel-1 for fully automated worldwide flood monitoring

2022: Recent research at the <u>Conrad Observatory</u>

2023: Education in Geoinformatics at ZGIS Salzburg

More information on past meetings can be found here.

There was also a meeting with Chris Rizos, IUGG President (2023-2027), in Vienna in 2022, during which the challenges of our areas of specialisation/specific fields were addressed.

With the easing of travel restrictions after the COVID-19 pandemic, in-person IUGG and Association meetings, summer schools and more resumed in 2022. Austrian scientists have been active in organising and participating in these meetings.

I take this opportunity to thank my fellow National Delegates of the International Associations, as well as Franz Blauensteiner as our secretary, for the work they have done to promote the IUGG.

Wolfgang Lenhardt, President of the IUGG National Committee for Austria

IUGG ITALY – Annual Report 2023 of the National Committee

The Italian National Committee of IUGG is pleased to present its annual report 2023, which can be downloaded here (in Italian here).

In addition, also the annual reports of the <u>IACS</u>, <u>IAGA</u>, <u>IAHS</u>, <u>IAMAS</u>, <u>IAPSO</u>, and <u>IASPEI</u> National Correspondents are now available.

All the reports of the Italian National Research Council (<u>CNR</u>) related to International Scientific Organisations can be found <u>here</u>.

Fausto Guzzetti, President of the IUGG National Committee for Italy

4. IACS/WMO – Best Practices for the Measurement of Glaciers





International Association of Cryospheric Sciences As part of the long standing and successful engagement between the International Association of Cryospheric Sciences (IACS) and the Global Cryosphere Watch (GCW) of the World Meteorological Organization (WMO), a new <u>publication</u> is available through the WMO Library, focusing on the Measurement of Glaciers. Currently, the publication is available in four official languages of the United Nations:

English, French, Russian, and Arabic, with the versions in Spanish and Chinese being under final review, to be posted on the same site, in the near future. The Measurement of Glaciers is published as Chapter 3 of Volume II Measurement of Cryosphere Variables of publication WMO No-8, Guide to Instruments and Methods of Observations, a flagship publication of WMO since 1950, and updated regularly through the contribution of the international experts.

The glacier chapter describes conventional methods used to measure winter and summer mass balance on glaciers. It outlines methods used in mass-balance calculations, discusses sources of error in measurements and calculations of mass-balance and outlines methods for bias-correction. The 21st century is likely to witness a transformation to automated, real-time glaciological observations, supported by satellite monitoring and modelling, and regular updates of this publication will strongly support future generations of glaciologists and the increased standardisation of observations and data.

The manual includes recommendations on the archiving of field data, on the combination of different methods to reduce uncertainties in mass-balance results and on the standardisation of results using common protocols. Fostering of information exchange between national and international programmes is discussed. The glacier chapter is authored by Thorsteinn Thorsteinsson, Jakob Abermann, Liss M. Andreassen, Charles Fierz and Matthias Huss.

Rodica Nitu, WMO

5. IAG – Establishment of Secretariat

The International Association of Geodesy (<u>IAG</u>) is a beacon of cooperation and innovation in the field of geodesy and promotes research and cooperation worldwide. Since its foundation in 1862, Austria has been a cornerstone as one of the three founding members, and numerous Austrian institutions and universities have contributed to its further development.

Among these institutions, the Federal Office of Metrology and Surveying (<u>BEV – Bundesamt für</u> <u>Eich- und Vermessungswesen</u>) in Austria is a loyal supporter of geodesy. In particular, the BEV continues to make an important contribution by analysing various geodetic space technologies such as GNSS and VLBI and regularly participates in international comparative measurements of its absolute gravimeter. Since 2016, the BEV has also been home to the Coordination Office of the IAG's Global Geodetic Observing System (<u>GGOS</u>).

Building on the success of the <u>GGOS Coordination Office</u> in recent years, the IAG proposed the establishment of an IAG Secretariat at BEV – an idea warmly embraced by all parties involved. On 16 April 2024, an important milestone was reached when a Memorandum of Understanding was signed between the IAG and the BEV, initiating the establishment of this IAG Secretariat. This milestone was announced and celebrated at the Geodesy Reception on 17 April 2024, at the BEV headquarter in Vienna, Austria, during the EGU General Assembly, which was attended by more than 140 international geodesists.



After the signing of the Memorandum of Understanding, which initiated the establishment of the IAG Secretariat at BEV on 16 April 2024. From left to right: Wernher Hoffmann (BEV President), Harald Schuh (past IAG President), Richard Gross (IAG President), Franz Blauensteiner (Head of Reference Systems Department, BEV), Daniela Thaller (IAG Secretary General), Martin Sehnal (Director of GGOS Coordination Office and Executive Secretary at IAG Secretariat, BEV), Peter Teunissen (IAG Vice-President). Photo credit: BEV The future IAG Secretariat will take over the long-term tasks of the IAG Secretary General (IAG Office) as well as all IAG public relations tasks currently performed by the IAG Communications and Outreach Branch (COB). In future, this will enable seamless cooperation with the GGOS Coordination Office and reduce duplication of work. Plans are underway to formalise the establishment of the IAG Secretariat by the next IUGG General Assembly in 2027, subject to final confirmation by the IAG Council. BEV and the prospective Executive Secretary of the IAG Secretariat, Martin Sehnal, look forward to taking on an enhanced organisational role in international geodetic matters in the future and further highlighting the importance of geodesy in both science and society.

Martin Sehnal, Director of the GGOS Coordinating Office and IAG Executive Secretary at the IAG Secretariat

6. IAG – Meeting Announcements

GGOS Topical Meeting on the Atmosphere



GGOS serves as an integrating framework for all components of the International Association of Geodesy (IAG), providing a clearinghouse for geodetic expertise and fostering interdisciplinary research. A current challenging topic is the modelling of spatio-temporal variations of the atmosphere (troposphere, stratosphere, mesosphere, thermosphere, ionosphere/plasmasphere) and the magnetosphere using geodetic and geophysical observations. Several colleagues are making great progress in this field, and therefore, GGOS is convening this meeting to bring together all these colleagues to share common research points and to identify new topics for study. The scope of the meeting also encourages the participation of colleagues from the International Association of Geomagnetism and Aeronomy (IAGA), with the main objective of establishing a multidisciplinary network of scientists to integrate geodetic and geophysical technologies for comprehensive monitoring of the atmosphere and categorise existing and potential new related applications that contribute to the dissemination and societal use of research results in this important field. The meeting will be held face-to-face from 7 to 9 October 2024 at the Wissenschaftsetage im Bildungsforum in Potsdam, Germany. Attendance is free (no registration fee), but pre-registration is required to ensure room capacity. Participants are invited to submit their papers to the journal Advances in Space Research (ASR), Special Issue: Ionospheric Imaging: Recent Advances and Future Directions. Thanks to the support of IUGG, IAGA and IAG, we will be able to provide some financial support to early career scientists and colleagues from developing countries who wish to present their research at the meeting. All the details are available here.

Important dates

- Travel Award application deadline 15 July
- Travel Award notification 31 July
- Abstract submission deadline 31 July
- Abstract acceptance notification 15 August
- Schedule and conference program 31 August
- Pre-registration deadline 31 August
- List of participants 5 September
- GGOS Topical Meeting 7-9 October

Do not miss this opportunity to contact and interact with colleagues from the GGOS Focus Areas 'Geodetic Space Weather Research', 'Artificial Intelligence for Geodesy', and 'Geohazards Monitoring', IAG Commission 4 'Positioning and Applications', IAG Sub-Commission 4.3 'Atmospheric Remote Sensing', IAGA Interdivisional 'Commission on Space Weather', IAGA Division II 'Aeronomic Phenomena', IAGA Division V 'Geomagnetic Observatories, Surveys and Analyses', IAG Study/Working Groups on 'AI for GNSS Remote Sensing', 'Remote sensing using GNSS reflected signals', 'High-resolution probing of the Troposphere and Ionosphere', 'Understanding Ionospheric and Plasmaspheric Processes', 'Thermosphere Modelling and Applications', 'Space Weather Monitoring and Prediction', 'Atmospheric Coupling Studies' and many other colleagues who are at the forefront of cross-cutting research in this important area.

GGOS Days 2024



Each year, the GGOS Executive Committee organises the <u>GGOS Days</u> to update the IAG and GGOS communities on recent achievements and current challenges faced by the various colleagues involved in achieving the goals of the GGOS Strategic Plan. On this occasion, thanks to the kind invitation of the Helmholtz Centre Potsdam German Research Centre for Geosciences (<u>GFZ</u>), the GGOS Days 2024 will be held as a hybrid meeting at the Wissenschaftsetage im Bildungsforum in Potsdam, Germany, from 10 to 11 October.

Please register here.

The GGOS Days 2024 meeting will cover:

- Updates on global geodetic infrastructure
- Status of novel satellite missions relevant to Geodesy
- Optimisation of geodetic infrastructure
- Updates from the IAG Services
- Standardisation, integration, and optimisation of geodetic products

- Essential Geodetic Variables
- Review of requirements and standards for geodetic products
- Management and dissemination of geodetic data and products
- Networking with external stakeholders
- Communication and public outreach
- Enhancement of geodetic collaboration at regional level
- Advances of the GGOS Focus Areas: Geodesic Space Weather Research, Artificial Intelligence for Geodesy, Geohazards Monitoring

Laura Sánchez, GGOS President Martin Sehnal, Director of the GGOS Coordinating Office

7. ISC – Election of the Nominations and Elections Committee (2024-2028)

On 24 May 2024, the International Science Council (ISC) announced the composition of the <u>Nominations and</u> <u>Elections Committee (2024-2028)</u>. Of 199 ISC members in good standing eligible to vote, a total of 145 members cast their vote, with 99.1 % of the weighted votes approving the proposed composition.



The committee will commence its work without delay and the call for nominations for new Governing Board members will be issued in June 2024.

8. Meeting Calendar

This calendar includes meetings which are planned to be organised under the umbrella of IUGG, and major conferences of IUGG's partner organisations (in *italics*). The calendar is updated regularly and is also available <u>online</u>. If you would like to add a meeting, or report changes, please contact the <u>IUGG Secretariat</u>.

June

- 2-7, IUGG, CMG, Mumbai, India, <u>34th Conference on Mathematical Geophysics.</u>
- Mathematical Geophysics for Sustainable Development
- 2-7, IUGG, IAGA, Fredericton, New Brunswick, Canada, <u>The Combined ANGWIN/VCAIS</u> <u>Meeting</u>
- 5-7, IAG, Barcelona, Spain, EUREF Symposium 2024
- 7-17, IUGG, IACS, McCarthy AK, USA, International Summer School in Glaciology
- 17-21, IUGG, IAMAS, Hangzhou, China, <u>Quadrennial International Radiation Symposium</u> 2024
- 18-20, IAVCEI, Liverpool, UK, <u>1st International Conference on Volcanic and Igneous</u> <u>Plumbin Systems (VIPS)</u>
- 23-28, AOGS, Pyeongchang, Rep. of Korea, AOGS Annual Meeting 2024
- 23-28, IUGG, IAG, SEDI, Great Barrington MA, USA, <u>18th Symposium of SEDI</u>
- 24-27, IUGG, IAMAS, La Jolla CA, USA, <u>International Atmospheric Rivers Conference</u> 2024
- 24-28, IUGG, IASPEI, San José, Costa Rica, <u>5th General Assembly of the Latin American</u> and Caribbean Seismological Commission

- 30-6 July, IAGA, Utrecht, Netherlands, <u>18th Castle Meeting - New trends on Paleo-, Rock-and Environmental Magnetism</u>

July

- 1-5, IAG, Bern, Switzerland, <u>IGS 2024 Symposium and Workshop</u>
- 7-12, IAMAS, Sapporo, Japan, <u>9th Global Energy and Water Exchanges (GEWEX) Open</u> <u>Science Conference</u>
- 8-12, IAMAS, Jeju, Rep. of Korea, <u>11th International Cloud Modeling Workshop (ICMW)</u> 2024
- 12-13, IUGG, IAMAS, Jeju, Rep. of Korea, <u>Workshop on Evaluation of Cloud Probe</u> <u>Processing Software</u>
- 13-14, IUGG, IAMAS, Jeju, Rep. of Korea, <u>Workshop on Scientific Directions for Cloud</u> <u>Chamber Research</u>
- 13-21, COSPAR, IUGG, Busan, Rep. of Korea, <u>45th COSPAR Scientific Assembly</u>
- 14-19, IAMAS, Jeju, Rep. of Korea, International Conference on Clouds and Precipitation
- 15-19, IUGG, IAMAS, Boulder CO, USA, Quadrennial Ozone Symposium
- 15-20, IUGG, IAPSO, Buenos Aires, Argentina, <u>Summer School</u>, <u>From meso to sub-</u> mesoscale ocean circulation structures: satellite and in-situ measurements, physical mechanisms and biological impact⁶
- 15-21, IAVCEI, Eastern Carpathians, Romania, <u>2nd edition of the Carpathian Fluid</u> <u>Geochemistry Summer School</u>
- 20, IAMAS, Jeju, Rep. of Korea, <u>A Short Course on Cloud Microphysics and Radar</u> <u>Observations</u>
- 20-27, IAHS, UNESCO-IHP, WMO, Cairo, Egypt, IAHS Academy
- 24-25, IAHS, Eichstätt, Germany, <u>International Commission on Continental Erosion (ICCE)</u> <u>Symposium 2024</u>

August

- 6-15, IAU, Cape Town, South Africa, <u>32nd IAU General Assembly</u>
- 19-23, SCAR, Pucón, Chile, SCAR Open Science Conference 2024
- 24-30, IGU, Dublin, Ireland, <u>35th International Geographical Congress</u>
- 25-30, IAG, Strasbourg, France, 20th Geodynamics and Earth Tides Symposium
- 25-31, IUGS, Busan, Rep. of Korea, <u>37th International Geological Congress</u>

September

- 4-6, IAG, Thessaloniki, Greece, Gravity, Geoid and Height Systems 2024
- 7-13, IAGA, Beppu, Japan, <u>26th Electromagnetic Induction Workshop</u>
- 8-15, IAVCEI, Catania, Italy, <u>10th International Conference on Tephra Studies</u>
- 9-13, IAMAS, Kuala Lumpur, Malaysia, <u>16th International Commission on Atmospheric</u> <u>Chemistry and Global Pollution Symposium and 18th International Global Atmospheric</u> <u>Chemistry Science Conference</u>
- 16-20, IASPEI, Corfu, Greece, Young Seismologist Training Course
- 18-20, IAVCEI, Catania, Italy, <u>6th Conference Alfred Rittmann</u>
- 22-27, IUGG, IASPEI, Corfu, Greece, <u>39th General Assembly of the European</u> <u>Seismological Commission</u>
- 25-27, IACS, Shanghai, China, <u>International Symposium on Geomatics, Remote Sensing</u> and Climate Change in the Arctic, Antarctica and High Mountain Asia
- 30-4 October, IAGA, Breckenridge CO, USA, <u>11th VLF and ELF Remote Sensing of the</u> <u>Ionosphere and Magnetosphere (VERSIM) Meeting</u>

October

- October, IAMAS, Qingdao, China, ICCL Conference
- 1-4, IUGG, IASPEI, Windhoek, Namibia, 4th General Assembly of the African Seismological Commission
- 5-13, IAVCEI, Nicolosi, Italy, <u>9th school on Convective and Volcanic Clouds (CVC)</u> detecting, monitoring and modeling
- 6-9, EMSEV, IAGA, IASPEI, IAVCEI, Chania, Greece, <u>Electromagnetic Studies of</u> <u>Earthquakes and Volcanoes</u>
- 7-9, IAG, IAGA, IUGG, GFZ, Potsdam, Germany, <u>GGOS Topical Meeting on the</u> <u>Atmosphere</u>
- 10-11, IAG, Potsdam, Germany, GGOS Days 2024
- 13-19, IAMAS, Nanjing, China, ICDM Workshop 2024
- 20-26, IAG, Kunming, China, 23rd International Workshop on Laser Ranging
- 31-6 November, IAGA, Vassouras, Brazil, <u>XXth IAGA Workshop on Geomagnetic</u> <u>Observatory Instruments, Data Acquisition and Processing</u>

November

- November, IAG, Bogota, Colombia, SIRGAS 2024
- 3-7, IUGG, IASPEI, Belek, Türkiye, <u>15th General Assembly of the Asian Seismological</u> <u>Commission</u>
- 4-7, IUGG, IAHS, Florianópolis, Brazil, <u>9th International Water Resources Management</u> Conference of the International Association of Hydrological Sciences; 14th International Workshop on Statistical Hydrology of the International Association of Hydrological Sciences; and 1st Encontro Brasileiro de Hidrologia Estatística
- 4-8, GRC, Suva, Fiji, GeTEWS Oceania 2024
- 4-8, IAVCEI, San Pedro de Atacama, Chile, 1st International Monogenetic Conference
- 10-14, IAMAS, Goa, India, <u>9th SOLAS Open Science Conference</u>

December

- 9-13, AGU, Washington DC, USA, AGU Fall Meeting 2024

Association Scientific Assemblies 2025

- 29 June 4 July, IAVCEI, Geneva, Switzerland, <u>IAVCEI Scientific Assembly 2025</u>
- 20-25 July, IACS, IAMAS, IAPSO, Busan, Rep. of Korea, <u>IACS-IAMAS-IAPSO Joint</u> <u>Scientific Assembly 2025</u>
- 31 August 6 September, IAGA, IASPEI, Lisbon, Portugal, <u>IAGA-IASPEI Joint Scientific</u> <u>Assembly 2025</u>
- 1-5 September, IAG, Rimini, Italy, IAG Scientific Assembly 2025
- 5-10 October, IAHS, Roorkee, India, IAHS Scientific Assembly 2025

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